municated at your solicitation. It would be curious, however, to establish the fact that this Alga has but one form of fructification: we should then have a perfect confluence and assimilation of the two kinds of fruits."

I shall only add, that Dr. Montagne showed me his sketches when I was with him last summer, at which time he had not the slightest notion that Mr. Harvey had made similar observations.

I am, my dear Sir, yours very faithfully,

King's Cliffe, Dec. 15, 1843. M. J. Berkeley.

BIBLIOGRAPHICAL NOTICES.

Phycologia generalis; oder Anatomie, Physiologie und Systemkunde der Tange, bearbeitet von F. T. Kützing. 4to, tab. 80. Leipzig, 1843.

Fries remarked in his 'Systema Orbis Vegetabilis,' published in 1825, that the study of aquatic Algæ was in the same condition as that of Fungi a century, or that of Lichens half a century before. The characters were principally taken from outward form, without proper attention to differences of structure. It was certainly matter of great difficulty to obtain clear views of structure with the older microscopes, and the analyses by Sir W. J. Hooker given in Turner's 'Fuci,' which were admirable for the time, lost a great deal of their sharpness in engraving, and the greater part of the copies of that excellent work do not exhibit them so clearly as might be wished, the difference between early and later impressions being very considerable.

This opinion of the great Swedish mycologist appeared to many harshly expressed, but it was nevertheless not far from truth, as the labours of modern algologists have clearly demonstrated.

Attention has been drawn to the subject, more especially during the last two or three years, by the memoirs of Decaisne, Chauvin, J. Agardh, Montagne, &c.; and though these are in many cases accompanied by admirable analyses, a larger mass of illustrations was most desirable, which is exactly what the work of Kützing supplies.

The figures are admirably drawn and engraved by the author himself, and we can answer for their general correctness from having had the advantage of inspecting a large quantity of precisely similar analyses in the herbarium of Dr. Montagne. The engraving is so minute, that frequently it is really useful to examine it with the help of a lens. The illustrations are very various, entering into the most minute details of structure both of the frond and fruit, and where possible of the germination, and they present such a mass of facts and such valuable materials for students as perhaps were never before collected in a single volume.

It is exactly analogous to the work of Corda on Fungi, having the same excellences and the same faults. The text in most cases does not answer one's expectation so fully as the plates would promise. The arrangement on the whole is good and natural; the prefatory

remarks, which extend to a considerable length, relating to structure and other general matters, excellent; but all that relates to characters, species, synonyms, literature, &c. by no means satisfies us.

The characters both of genera and species are very loosely drawn, without any clear notions, as it appears to us, of what a genus or species should be; the synonyms are often incorrect or insufficient; the phraseology new and needlessly complex; but the main fault, in a work of such a general scope, is the very limited acquaintance which the author seems to have with French and English literature. The greater part of the discoveries for instance of Dr. Montagne, not to mention a host of other algologists, both in France and England, and those recorded mostly in works of easy access, are not so much as mentioned, and genera which have been characterized years since are treated as if they were but now extracted from the chaos. This is the more to be lamented, because no part of botany perhaps has suffered so much as algology, from the circumstance of writers, even such as Agardh, not being fully acquainted with the literature of the day; in consequence of which a master-hand is requisite to produce a nomenclature, which would meet with universal approbation, at once consistent with the laws of priority and free from all spirit of partiality; and this can only be done by the acknowledged excellence of some general work upon the subject, or by a special memoir undertaken with the express view of reconciling differences.

At the same time it is but just to state, that the author adverts himself to the difficulties under which he laboured in this respect in consequence of his being located where he had the advantage of a very limited library only, and doubtless some of these faults will be remedied in his future labours. The *Diatomaceæ* are not included in the work, but will form a distinct treatise, for which the author is preparing copious illustrations.

Notwithstanding the drawbacks mentioned above, there cannot be a doubt that the work will have a most beneficial influence upon science; and it is not merely to the algologist that it will prove interesting, but to all who study the structure of plants. The cellular tissue is very various and abounds in points of interest; there is even in some Algæ a close approach to the dotted cells, to which attention has been directed so much by Mohl and others.

The differences in the arrangement and development of the fructification are far more numerous than might be expected, and present characters as various as they are important, and fully justify the anticipation of Fries, put forth at the same time with the opinion which we before noticed as to the state of algology, that the fructification would in process of time afford the best and most natural means of arrangement.

One of the most interesting points afforded by the work is the means which it gives of judging of the correctness of Decaisne's theory of the identity of the spores and tetraspores in *Floridea*, and of the propriety of his division into Aplospores and Chorispores. Our impression is, that in the end this will be found untenable; but even should this be the result of mature judgement, we shall not think

that it will at all detract from the merit of Decaisne, or from the obligations which the algologist will owe to him. Not only in any case will his theory be regarded as most ingenious and as indicative of great powers of observation, but algologists will have to thank him, in combination indeed with one or two of his countrymen (not forgetting the younger Agardh), for showing how Algæ ought to be studied, and will acknowledge his title to be regarded as one of the prime leaders in the new school of algology.

Synopsis Floræ Germanicæ et Helveticæ. Auctore G. D. J. Koch. Editio 2. Pars I. 8vo. Frankfort, 1843.

This is the first portion of a new edition of Koch's extremely valuable 'Synopsis,' and we rejoice to add that the second and concluding part is in active preparation. The whole work has been carefully revised, and we find very numerous altera ions and improvements, although we fear that some of the plants newly introduced as species will not sustain the rank to which they have been raised. This half of the volume extends to 452 pages, and, following the arrangement of the former edition, includes the natural orders as far as the middle of the Compositæ. Any recommendation of the work is quite unnecessary; it and its author are too well known to require it.

PREPARING FOR PUBLICATION.

A History of the Fossil Insects in the Secondary Rocks of England. By the Rev. P. B. Brodie, M.A., F.G.S. The author proposes to connect the results of his investigations in this interesting branch of fossil zoology, illustrating the text by numerous plates of the most characteristic specimens in his large collection of insect remains.

Subscribers' names will be received by the publisher, Mr. Lee, Bookseller, High Street, Cheltenham.

The Ray Club.—Under this name it is proposed to institute a Society for the objects explained in the following prospectus. Persons intending to become members are requested to forward their names and addresses, at their earliest convenience, to Dr. Geo. Johnston, Berwick-upon-Tweed, who has consented to act as Secretary until the feasibility of the project has been ascertained, and a Council appointed.

Prospectus.—I. The Ray Club shall have for its object the promotion of Natural History by the printing, and circulation among its members, of original works on Zoology and Botany; of new editions of works of established merit; of rare Tracts and MSS. which throw light on the history of these branches of science; and of translations of such foreign works as tend more directly to illustrate the Zoology and Botany of the British Islands.

II. Every subscriber of one guinea annually, payable in advance, to be a member of the Club, and to have a vote in the election of its office-bearers. The first payment to become due on the 2nd of February 1844.

III. The management of the Club shall be vested in a Committee or Council of thirteen members. The Secretary to be *ex officio* a member of the Council, and to be paid such amount of salary as to the Council may appear to be a fair remuneration of the trouble attached to the office.

IV. The annual subscription shall be deposited in a chartered Bank in the name of the Secretary and two members of the Council; and the fund shall be exclusively applied in publishing such works as the Council shall sanction.

V. The accounts of the receipt and expenditure of the Society shall be examined annually by two Auditors appointed by the Council,—the Auditors to be members of the Club who are not members of Council,—and their statement circulated among the subscribers.

VI. The Publications of the Club shall be confined to members only, excepting in cases where the Council may otherwise determine by a unanimous vote. When the work selected is original, an arrangement may be made with the author for extra-copies,—the Club being always secured against any charge for the same.

VII. The number of volumes to be printed annually must depend on the amount of subscriptions, and the size and nature of the volumes selected; but the Council will be directed to divide the fund as equally as possible in the printing of the Botanical and Zoological departments. At least one volume in Zoology and one in Botany should be published annually.

VIII. The works which the Club shall endeavour to print may be arranged under the following heads:—

(1.) Original works in Zoology and Botany, more especially such as illustrate the Natural History of Great Britain and Ireland.

(2.) A uniform edition of approved works which, when chronologically arranged, shall present a complete and perfect view of the progress of the Natural History of the British Islands. The works selected to be edited by competent individuals, who may add prefaces and notes where these may be thought necessary.

(3.) The collection of Memoirs, Essays, Tracts, &c., scattered in the Transactions of learned Societies and elsewhere, into convenient volumes, and on a systematic plan.

(4.) The MSS. preserved in the British Museum, and other public repositories, relating to the Natural History of Great Britain, &c.

(5.) A Systematic History of the Zoology and Botany of the British Islands.

(6.) A 'Systema Naturæ.'

(7.) A Descriptive and Systematic Catalogue of all printed books in Zoology and Botany.

N.B.—These rules, &c. are to be understood as provisional, and are intended only to give an idea of the objects for the accomplishment of which the Ray Club is projected. If the Club meets with that support from naturalists which it seems to merit, more efficient and better defined rules may be made by the Council, whose election will be in the hands of the members in general.